RAYPACK® STUDIO

Enterprise Software Packaging

User Guide RayPack Studio Installer 7.3

RayPack Studio is part of RaySuite.

•**ray**NET

User Guide RayPack Studio Installer

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Contents

Introduction

RayPack Studio Installer is a tool to install and maintain the bundle of Raynet applications which is called RayPack Studio. This bundle consists of the following applications from the RaySuite family:

- RayPack
- PackBench
- RayQC
- RayQC Advanced
- RayEval
- PackLayering

The RayPack Studio Installer is a .NET application that allows to perform the following operations:

- Installation
- Upgrade
- Change or repair
- Uninstallation

> **Note:**
> `RayPackStudio-Setup.exe` requires **administrative privileges**.

Requirements

Hardware Requirements

Minimal

- CPU: Intel Core i5
- Screen resolution: 1024 x 768 pixels
- RAM: 4GB
- Disk space: 10GB

Recommended

- CPU: Intel Core i7
- Screen resolution: 1280 x 1024 pixels
- RAM: 16GB or higher
- Disk space: 100GB or more

Note:
The installation of the RayPack Studio Installer framework itself requires about 600MB of disk space. The amount of additional space needed depends on the volume of your packaging material and the location of the data store.

Supported OS

The following operating systems are supported for the installation and running of RayPack Studio Installer at the time of release.

- Windows 8.1
- Windows 10
- Windows 11
- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

> **Note:**
> Packages generated with RayPack Studio Installer have their own, individual set of target OS. The list above is not designed to display which target OS are reachable by RayPack Studio Installer packages.

Prerequisite Software

General
- Microsoft .NET Framework 4.7.2

General Requirements

In order to use RayFlow functionality directly from RayPack Studio Installer components, a running RayFlow server has to be accessible.

In order to use *RayManageSoft* integration, *Management Console* has to be installed on the machine on which RayPack is running.

RayPack

Virtualization
- In order to create SWV packages, the Symantec Workspace Virtualization Agent 7.5 has to be installed on the packaging machine.
- In order to create Thin-App packages, the VMware ThinApp has to be installed on the packaging machine.

Compatibility and Quality Control

In order to use Quality features (checklists, compatibility, virtualization, and conflict testing) RayQC and / or RayQC Advanced have to be installed on the local machine.

PackBench

Depending on the configuration of RayPack Studio Installer, additional tools and/or components

of RaySuite may be required. To get more information about the command line usage of these tools refer to the respective *User Guides* of these products.

For PackBench: SQL Server, version 2012 or higher. Express editions are also supported.

RayQC

In order to install and use the product, PowerShell 3.0 or newer must be installed.

RayQC Advanced

In order to install and use the product, SQL Server version 2012 or higher. Express editions are also supported.

Virtual Machines

Sequencing to App-V 4.6 / App-V 5.x using PackBot

In order to sequence legacy setups to Microsoft App-V 4.6 / 5.x format using a virtual machine, the virtual machine must have Microsoft App-V Sequencer installed. Additional requirements for specific Operating System version/platform may by required by Microsoft Sequencer tools.

Note: There is a difference between "Sequencing" and "Converting" as denoted in the PackBot configuration. The latter one uses a native converter and does not require Sequencer at all.

Converting to Thin-App using PackBot

In order to convert legacy setups to Thin-App, Thin-App converter must be installed either on host or on the virtual machine.

Hyper-V integration

- Both host and guest machine must have PowerShell 3.0 or newer installed.
- Windows Remote Management
- RayPack Studio Tools for Hyper-V need to be installed on the guest machine.

The tools can be installed from a Windows Installer package that is present in the RayPack Studio Installer subfolder `Tools\HyperVTools\Packaging Suite Tools for Hyper-V.msi`.

The installation of the tools is required, so that the user can see interactive prompts and windows on Hyper-V machines. It is recommended to install the tools as a part of the base snapshot.

VMware Workstation / ESXi5.5 - 6.0

RayPack Studio Installer supports the following products:

- VMware vSphere 5.5-6.0
- VMware Workstation 10 and newer
- VMware Workstation 7, 8, 9 and for VMware vSphere 4.x, 5 and 5.1 are experimentally supported.

To use any of VMware Workstation / ESXi machines, one of the following must be installed in an appropriate version:

- VMware Workstation
- VMware VIX API (https://my.vmware.com/web/vmware/details?productId=26&downloadGroup=VIX-API-162)
- vSphere

The required VIX API version depends on the systems that it needs to connect to. The below table presents the supported versions of VMware products depending on the installed VIX API version.

VIX API Version	VMware Platform Products	Library Location
1.11	Workstation 8 or earlier	Workstation-8.0.0-and-vSphere-5.0.0
1.12	Workstation 9 or earlier	Workstation-9.0.0-and-vSphere-5.1.0
1.13	Workstation 10 or earlier	Workstation-10.0.0-and-vSphere-5.5.0
1.14	Workstation 11 or earlier	Workstation-11.0.0
1.15.0	Workstation 14 or earlier	Workstation-12.0.0 Workstation-14.0.0

ESXi 6.5 and newer

To make use of ESXi 6.5+ servers, the following prerequisites must be met:

- PowerShell 3.0 or higher
- PowerShell Execution Policy set to Unrestricted or RemoteSigned
- PowerCLI module (www.powershellgallery.com/packages/VMware.PowerCLI)
- VMware Tools installed on the VM
- **Guest operations** and **System** permissions granted to the user executing the product.
- The following privileges should be assigned to the role:
  - `System.Anonymous`
  - `System.Read`
  - `System.View`
  - `VirtualMachine.GuestOperations.Execute`
  - `VirtualMachine.GuestOperations.Modify`
  - `VirtualMachine.GuestOperations.Query`
  - `VirtualMachine.Interact.CreateScreenshot`
  - `VirtualMachine.Interact.GuestControl`
  - `VirtualMachine.Interact.PowerOff`
  - `VirtualMachine.Interact.PowerOn`
  - `VirtualMachine.State.CreateSnapshot`
  - `VirtualMachine.State.RevertToSnapshot`

> **Be aware:**
> The **System roles** in vCenter are permanent and it is not possible to edit the privileges associated with these roles.

> **Note:**
> If the full path to the `.vmx` file is specified, it is necessary that the user also has `Datastore.Browse` privileges. If only the VM name (without datastore, folder, and .vmx extension) is specified, `Datastore.Browse` privileges are not needed.

Combination of supported versions is presented in the following table:

	VMware PowerCLI															
	12.0.0	11.5.0	11.4.0	11.3.0	11.2.0	11.1.0	11.0.0	10.2.0	10.1.1	10.1.0	10.0.0	6.5.4	6.5.3	6.5.2	6.5.1	6.5.0
⌄ VMware vSphere Hypervisor (ESXi)																
7.0	✅	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6.7 U3	✅	✅	✅	✅	—	—	—	—	—	—	—	—	—	—	—	—
6.7 U2	✅	✅	✅	✅	✅	—	—	—	—	—	—	—	—	—	—	—
6.7 U1	✅	✅	✅	✅	✅	✅	✅	—	—	—	—	—	—	—	—	—
6.7.0	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	—	—	—	—	—	—
6.5 U3	✅	✅	✅	✅	—	—	—	—	—	—	—	—	—	—	—	—
6.5 U2	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	—	—	—	—	—	—
6.5 U1	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	—	—
6.5.0	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅
6.0 U3	—	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅
6.0.0 U2	—	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅
6.0.0 U1	—	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅
6.0.0	—	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅	✅
5.5 U3	—	—	—	—	—	—	—	✅	✅	✅	✅	✅	✅	✅	✅	✅
5.5 U2	—	—	—	—	—	—	—	✅	✅	✅	✅	✅	✅	✅	✅	✅
5.5 U1	—	—	—	—	—	—	—	✅	✅	✅	✅	✅	✅	✅	✅	✅
5.5	—	—	—	—	—	—	—	✅	✅	✅	✅	✅	✅	✅	✅	✅

More information about PowerCLI:

- *https://pubs.vmware.com/vsphere-51/index.jsp?topic=%2Fcom.vmware.powercli.cmdletref.doc%2FGet-VMGuest.html*
- *https://pubs.vmware.com/vsphere-51/topic/com.vmware.powercli.cmdletref.doc/Invoke-VMScript.html*
- *https://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.wssdk.pg.doc_50%2FPG_ChD_Privileges_Reference.22.3.html*

Preparation

As a preparation to install the RayPack Studio please prepare the following:

- Download the current version of the RayPack Studio Installer.
- Ensure that a valid order number or a valid license file is at hand.
- If installing PackBench or RayQC Advanced, ensure that a SQL server matching the prerequisites in *Prerequisite Software* is available.
- If the RayPack Studio is to be used in conjunction with a RayFlow Server, ensure that a connection to a running RayFlow server is available. For more information on RayFlow server, also refer to the chapter *Installing RayFlow Server*.

Installation

Welcome Page

To install any product from the RayPack Studio bundle, start the RayPack Studio Installer and click on the **Install** button.
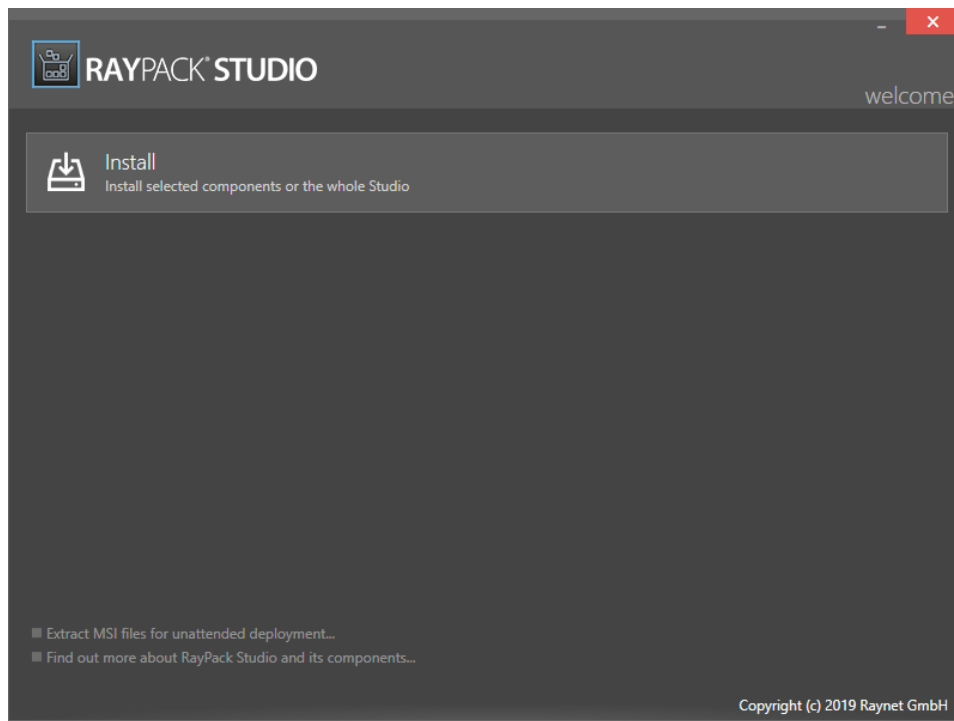
The Welcome Page

> **Note:**
> The **Install** option is only available if no application from the RayPack Studio family is installed on the machine. If at least one application is already installed, use the *Upgrade* or the *Change or repair* option.

EULA Page

To install an application which is part of the RayPack Studio, the **END USER LICENSE AGREEMENT** needs to be accepted. Read the **END USER LICENSE AGREEMENT** and if the terms are not acceptable abort the installation process now.
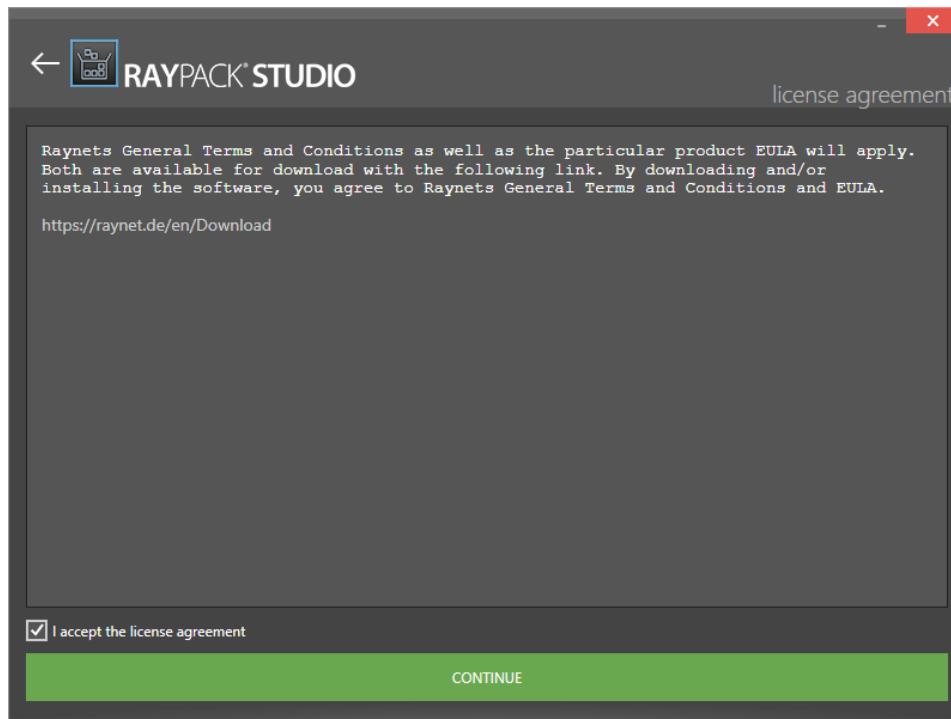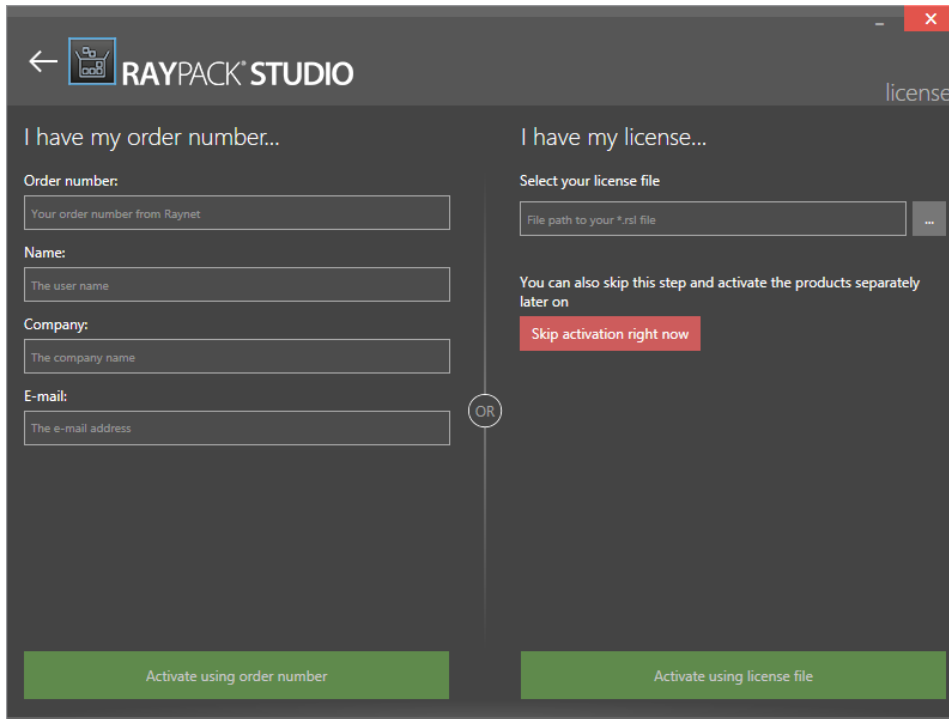
The EULA Page

If the terms are acceptable, check the **I accept the license agreement** checkbox and continue by clicking the **Activate using order number** button.

License Page

After the License Agreement has been accepted, the **license** page will open. On this screen, users can activate the RayPack Studio application(s) by using their order number or by using an `.rsl` license file. By clicking on the **Skip activation right now** button, license activation can be skipped and the applications can be activated later.

The License Page

When activating the applications with an order number the following fields are mandatory: **Order number**, **Name**, **Company**, **E-mail**.

When activating the applications with a pregenerated license file the path to the `.rsl` file location is required. To browse to the license file, click on the browse button [**...**].

Components Page

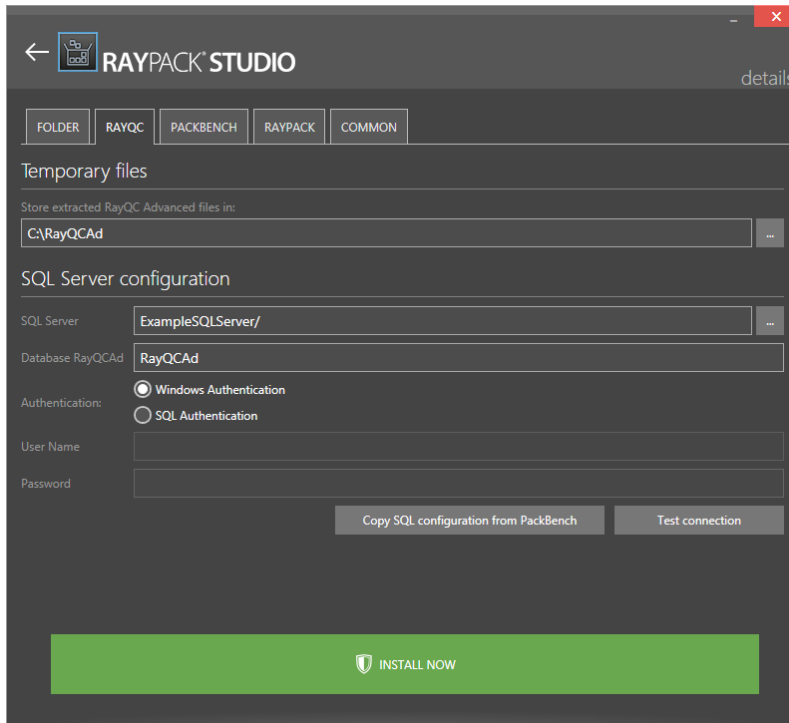After the license activation has been completed, users continue with the components page.
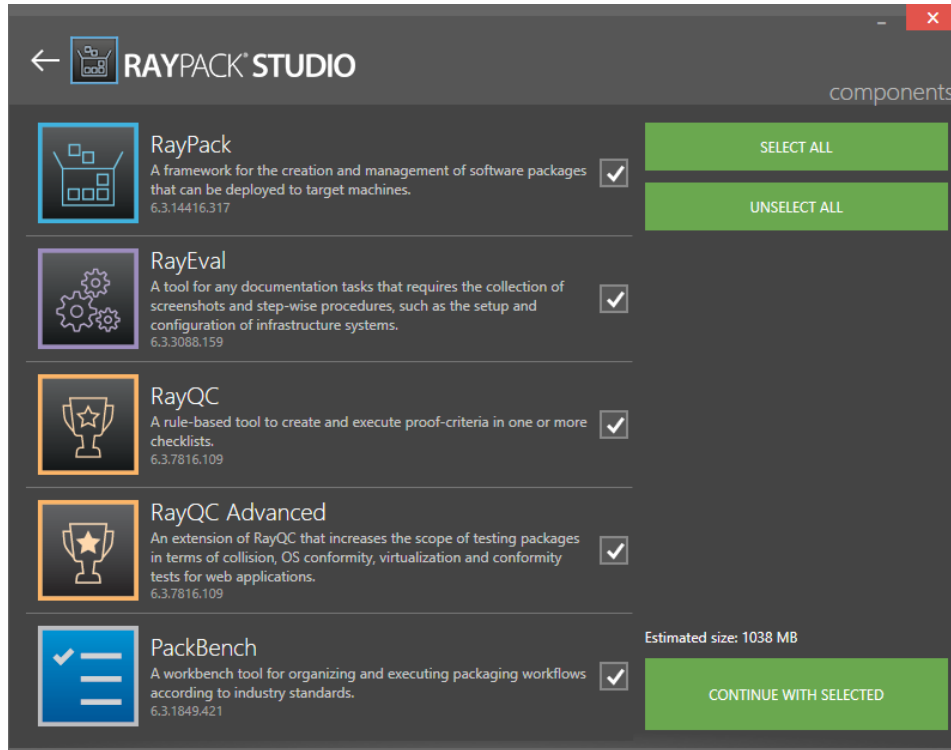
The Components Page

On the components page, all available applications are listed. Users can select the products for installation by checking the checkbox next to the product name. After an application has been selected, the estimated size grows and represents an estimation of the disk space that is required for the installation. To continue to the next page, users need to click on the **CONTINUE WITH SELECTED** button.

Details Page

This page contains the different settings that are required for the installation of the different components of the RayPack Studio. The view depends on the components that have been selected on the previous page. The settings are grouped in different tabs. The tabs shown on this page represent the destination folder, the products, and the common settings.

The Details Page

The **FOLDER** tab and the **COMMON** tab will always be shown. The other tabs depend on the products selected in the previous step.

Some fields are filled with default values, but some require input from the user. If a tab requires input from the user, it will display the ⚠ icon. This means that the user will need to open the tab and then search for the mandatory elements. Mandatory elements are highlighted with a red border, for example:


Example of a mandatory element

In the case shown in the picture above, the user needs to specify the SQL server location and instance. It can be typed in manually or by using the browse button [**...**].

Once the configuration has been finished, click on the **INSTALL NOW** button to start the installation process.

Folder Tab

In the **FOLDER** Tab the Installation Folder for all products of the RayPack Studio is defined.
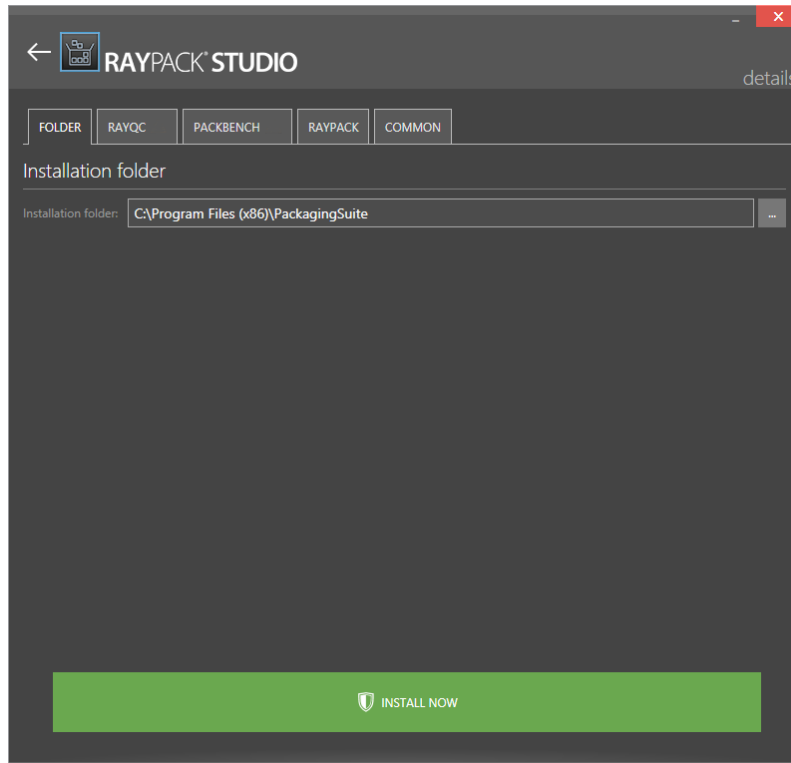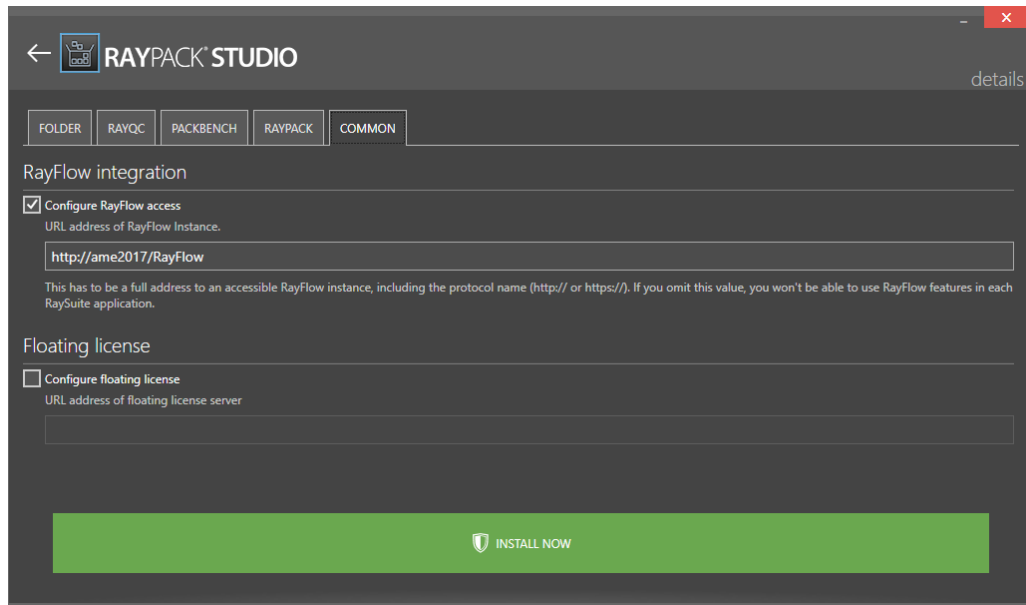

The Folder Tab

By default, the folder is `C:\Program Files (x86)\RayPackStudio`. Select a folder by either typing in the path to a folder or by clicking on the browse button [**...**] and selecting the target folder.

Common Tab

In the **COMMON** tab the RayFlow connection and the connection to the Floating License Server can be configured.

The Common Tab

RayFlow Integration

Select the **Configure RayFlow access** checkbox to configure a RayFlow connection for all products during the installation. The URL of an accessible RayFlow instance needs to be entered in the field.

> **Note:**
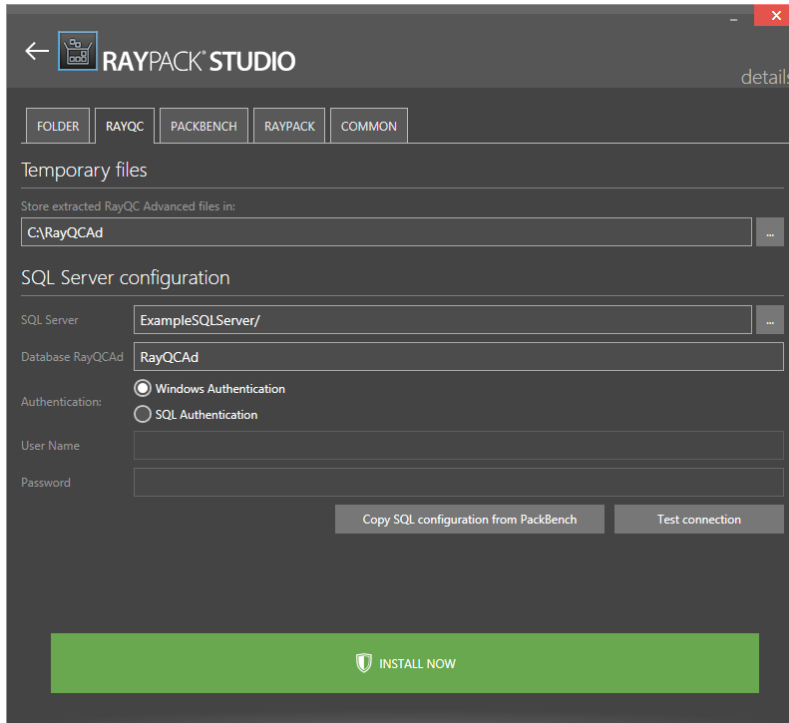> If the RayFlow integration has not been setup during the installation (in this step), it is not possible to configure a RayFlow connection for PackBench. The RayFlow configuration tab in PackBench is read-only.

Floating License

Select the **Configure floating license** checkbox to configure the connection to a floating license server. The URL of an accessible Floating License Server instance needs to be entered into the field.

RayQC Tab

In the **RAYQC** tab the settings necessary to install RayQC are configured. These settings are comprised of the folder which is used by RayQC Advanced to extract files and the SQL server connection which is needed by RayQC Advanced.

The RayQC Tab

Temporary Files

The directory in which RayQC Advanced is storing its temporary files is configured here. Either keep the default folder or change the folder by using the browse button [**...**] and select the target folder. By default, the folder configured is `C:\RayQCAd`.

SQL Server Configuration

- **SQL Server**: The SQL server needs to be defined. Please specify the server together with the instance (if an instance is required). The server can be specified by its name or by its IP address. The SQL server must exist and must have a user which can create a database and has read and write access to the newly created database. Click on the browse button [**...**] to select the instance by browsing to the target instance. In order to provide an instance name, separate it from the server name by using a backslash (\) character.

- **Database RayQCAd**: The name of the database used by RayQC Advanced is defined here.

- **Authentication**: The authentication method which is used by RayQC Advanced is defined here. There are two options available:
  - ○ **Windows Authentication**: If this is chosen, the Windows authentication of the current user will be used for the login.
  - ○ **SQL Authentication**: If this is chosen, enter a user name into the **User Name** field and a
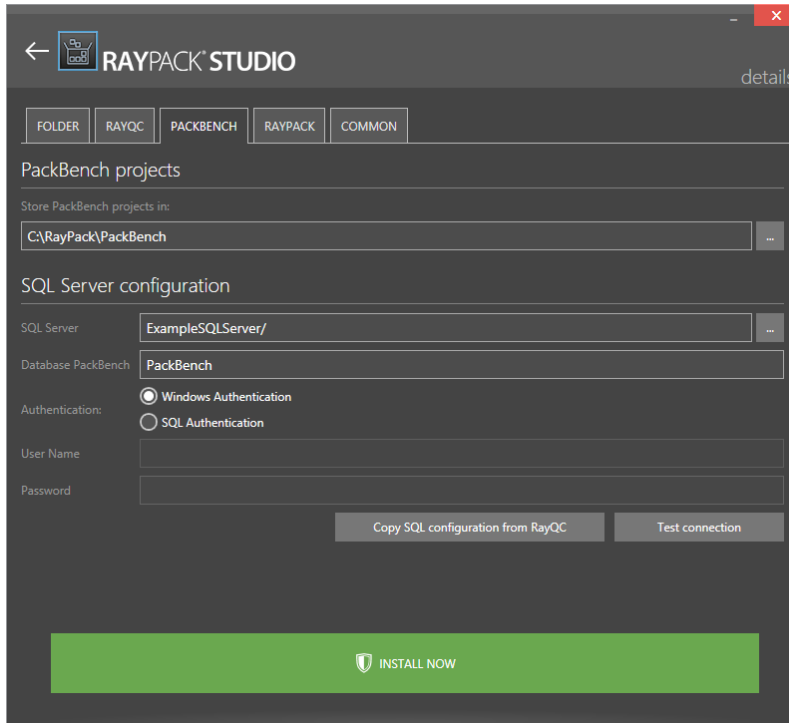
password into the **Password** field.

There are also two buttons available which can be used to configure the connection and ensure that the connection is working.

- **Copy SQL configuration from PackBench**: This button can be used to copy the SQL configuration given in the **PACKBENCH** tab.

- **Test connection**: This button can be used to verify that the configured connection to the SQL server is working.

For more information on RayQC and RayQC Advanced refer to the *RayQC User Guide* and the *RayQC Installation Guide*.

PackBench Tab

In the **PACKBENCH** tab the settings necessary to install PackBench are configured. These settings are comprised of the folder which is used by PackBench to store projects and the SQL server connection which PackBench needs.

The PackBench Tab

PackBench Projects

The directory in which PackBench projects are stored is configured here. Either keep the default folder or change the folder by using the browse button [**...**] and select the target folder. By default, the directory configured is `C:\RayPack\PackBench`.

SQL Server Configuration

- **SQL Server**: The SQL server needs to be defined. Please specify the server together with the instance (if an instance is required). The server can be specified by its name or by its IP address. The SQL server must exist and must have a user which can create a database and has read and write access to the newly created database. Click on the browse button [**...**] to select the instance by browsing to the target instance. In order to provide an instance name, separate it from the server name by using a backslash (\) character.
- **Database PackBench**: The name of the database used by PackBench is defined here.
- **Authentication**: The authentication method which is used by PackBench is defined here. There are two options available:
  - **Windows Authentication**: If this is chosen, the Windows authentication of the current user will be used for the login.
  - **SQL Authentication**: If this is chosen, enter a user name into the **User Name** field and a

password into the **Password** field.

There are also two buttons available which can be used to configure the connection and ensure that the connection is working.

- **Copy SQL configuration from RayQC**: This button can be used to copy the SQL configuration given in the **RAYQC** tab.

- **Test connection**: This button can be used to verify that the configured connection to the SQL server is working.

For more information on PackBench refer to the *PackBench User Guide*.

RayPack Tab

In the **RAYPACK** tab, PackPoint can be configured. Using PackPoint is optional and RayPack is fully operational without this central repository for enterprise settings and configuration resources. However, using PackPoint is recommended for packaging factories and team oriented packaging processes. It helps to preserve customizations beyond product upgrades and the lifetime of local instance installations.
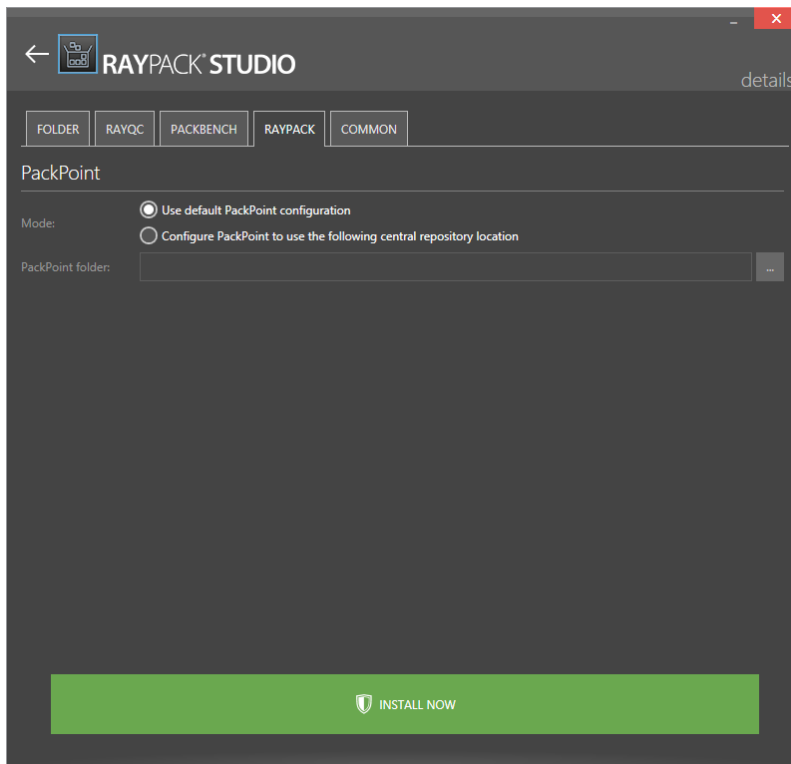

The RayPack Tab

To configure PackPoint activate the radio option **Configure PackPoint to use the following central repository location**. Choose the PackPoint destination folder by clicking on the browse button [**...**] to select the target directory.

For more information read the *Setting Up a Common Packaging Share* section of this guide.

Progress Page

On the progress page the current **progress** of the installation process is represented by two progress bars.
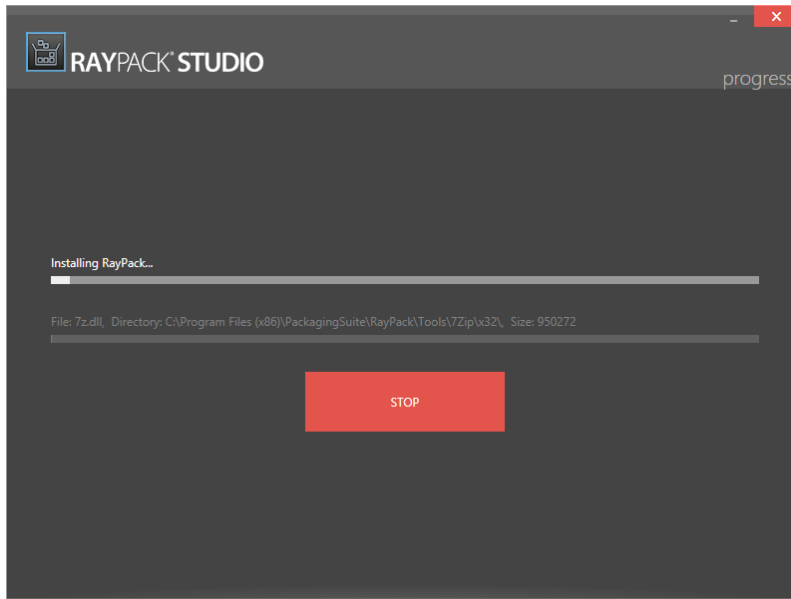
The Progress Page

The progress bar on the top represents the progress of the overall installation, while the progress bar on the bottom represents the progress of the installation for the application that is currently being installed. The same is valid for the installation messages.

> **Note:**
> The **STOP** button stops the installation process. The product which is currently being installed and all the following products will not be installed on the machine. All applications that have already been installed successfully during this run will stay on the machine.

Finished Page

Once the installation has been completed, the **finished** page with the installation results will appear.
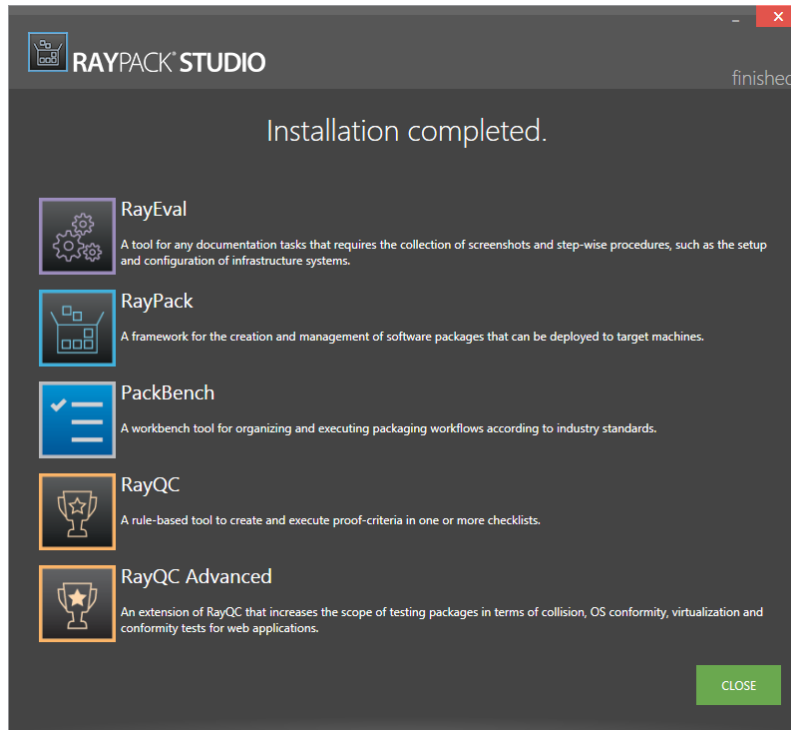
The Finished Page

The applications that have been successfully installed will appear in a bullet list. After clicking on an application from the list, the application will be started.

Best Practices

The following chapters are an overview of Best Practice procedures regarding the setup of a RayPack Studio environment.

The following topics are covered in this section:

- *How to Setup the PackBench Environment*
- *Installing PackBench in Client-Server Mode*
- *Preparing a Stand-Alone Installation of RayPack*
- *Installing RayFlow Server*
- *Setting Up a Common Packaging Share*

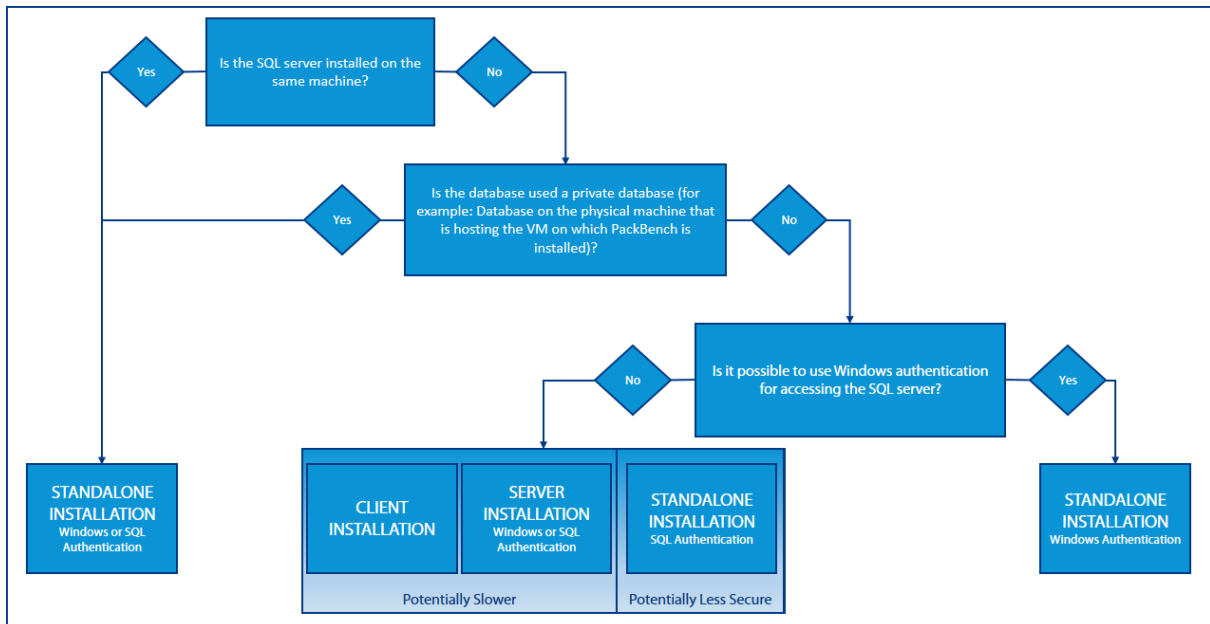Further information on the products of the RayPack Studio can be found in the Raynet *Knowledgebase* or in the documentation of the specific product.

How to Setup the PackBench Environment

This chapter shows some best practice scenarios to setup a PackBench in different RayPack Studio constellations.

The picture above shows an overview of the most common scenarios. A more detailed description can be found below.

Note:

In general the recommended setup method is the standalone installation of PackBench. The client-server mode installation should only be used if the SQL Connection String should not be saved on the client (especially when using SQL authentication).

Standalone Installation

The standalone installation of PackBench, is the installation method that is used when installing PackBench with the RayPack Studio installer. For all other installation methods (client and server) the `PackBench.msi` needs to be extracted from the RayPack Studio Installer and has to be installed manually. How to extract MSI files from the RayPack Studio Installer is described in the *Extract an MSI* section in this document.

Standalone Installation With Windows or SQL Authentication

This installation method should be used if the SQL server and PackBench are installed on the same machine. The standalone installation method is the same method that is used if PackBench is installed using the RayPack Studio Installer. Since all components are on one machine, it does not matter if the Windows or the SQL Authentication method is chosen. For more on how to

setup PackBench using the RayPack Studio Installer refer to the *PackBench Tab* chapter.

Standalone Installation With SQL Authentication

Two different authentication methods are available when installing a standalone installation of PackBench. It can be either authenticated using the Windows Authentication or using the SQL Authentication. If using a standalone installation in an environment where the SQL server is not located in the same domain as the packaging machine, Windows Authentication will not be available. In this case, SQL Authentication needs to be used.

> **Be aware:**
> Using a standalone installation with SQL Authentication in an environment where the SQL server and the PackBench installation are not part of the same domain will be less secure than using a client-server setup for PackBench. A client-server setup might be slower, because there will not be direct communication between the PackBench client and the SQL server.

Standalone Installation With Windows Authentication

For environments where the SQL server is on a different machine than the PackBench installation but where it is still possible to use Windows Authentication (for example, if SQL server and PackBench installation are still in the same domain), to install a standalone installation using Windows authentication is the best choice.

Client-Server Installation

When using a client-server installation the PackBench client component will be installed on one device and the PackBench server component will be installed on another device. This kind of setup can be used when a standalone installation using Windows Authentication is not an option (for example, when the device where PackBench will be installed is not part of the same domain as the SQL server). In this case, using a client-server installation will offer more security than using a standalone installation with SQL authentication.

> **Be aware:**
> Using a client-server setup for PackBench in an environment where PackBench and the SQL server are not part of the same domain might be potentially slower than a standalone setup using SQL Authentication, but a standalone setup using SQL Authentication will be less secure.

How to install PackBench in a client-server mode is described in the *Installing PackBench in Client-Server Mode* chapter.

For more information on how to setup a PackBench environment please refer to the *PackBench for RayPack User Guide*.

Installing PackBench in Client-Server Mode

To be able to install PackBench in a Client-Server mode (client and server on different devices), first the `PackBench.msi` needs to be extracted (for more information on how to extract the MSI files from the RayPack Studio Installer refer to the *Extract an MSI* section in this document).

After the MSI has been extracted, the server component and the client component can be installed individually.

Installing a Server Component

Preparing the Installation

Before the application can be installed on a server, some preparations are needed:

1. The server machine has to meet the system requirements described within the chapter *Requirements*.
2. A Windows User with sufficient rights for installations has to be logged in.
3. Close all dispensable applications during the setup routine execution.
4. Ensure that the machine contains all necessary prerequisite software as mentioned in chapter *Prerequisite Software*.
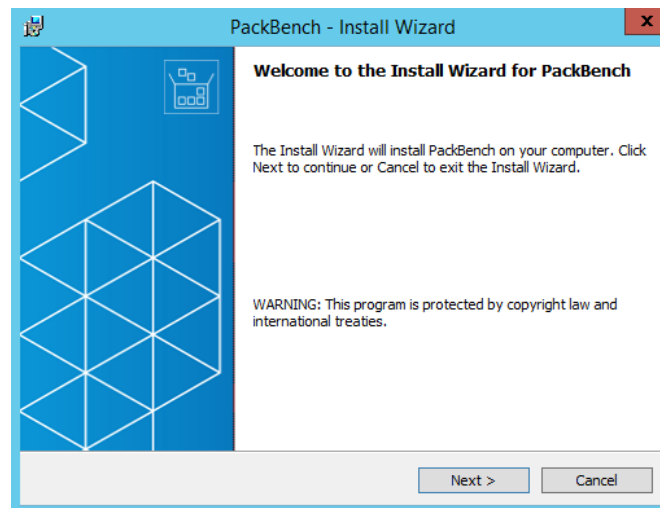

Be aware:
If no other configuration has been made, RayPack Studio Installer is using port `23624` by default. Please ensure, that this port is not blocked by a firewall.
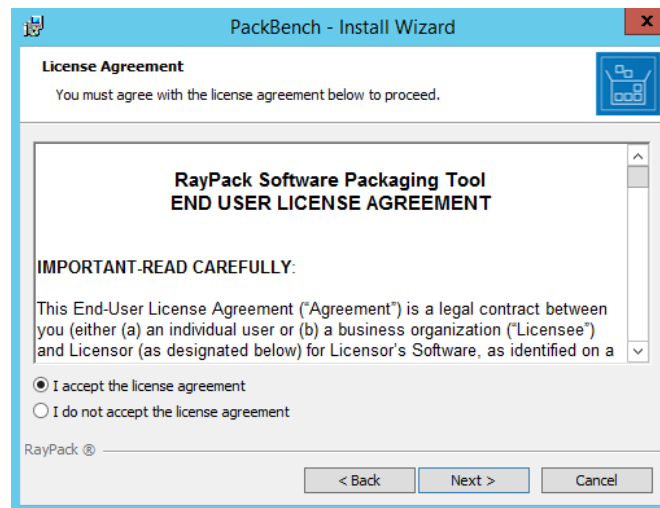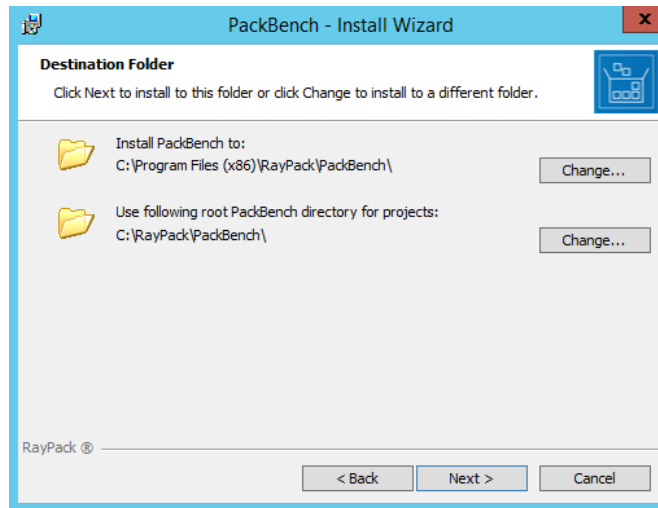

Installing PackBench

Launch the PackBench setup with a double-click on the MSI file and wait for the **Welcome** screen to be prepared.
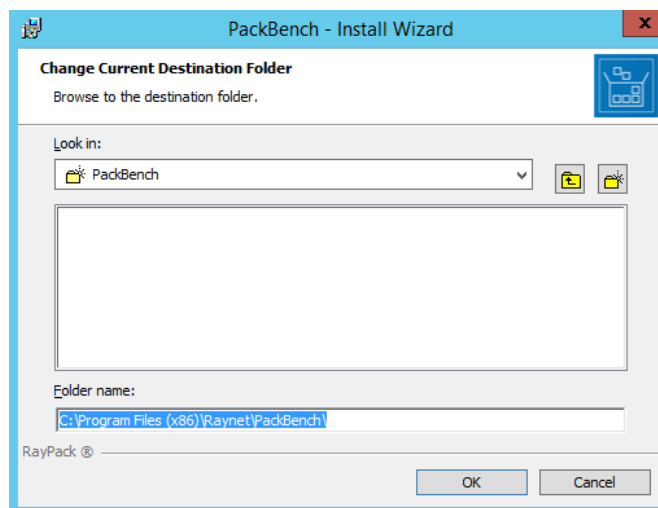

Click **Next >** to proceed.

In order to be allowed to install PackBench, the **END USER LICENSE AGREEMENT** has to be accepted. To do so, select the upper radio button and click **Next >** to proceed.

Please choose the destination folder and the root directory for projects by either keeping the suggested default or clicking on the **Change...** button to select another target directory.

If a custom destination folder has to be defined, the dialog displayed above has to be used. Please use the icons to navigate to the desired installation directory or to create a new one where necessary. As soon as the right target is defined, click **OK** to return to the **Destination Folder** screen. It will be updated to display the custom destination recently selected.

On the **Destination Folder** screen click **Next >** to proceed.
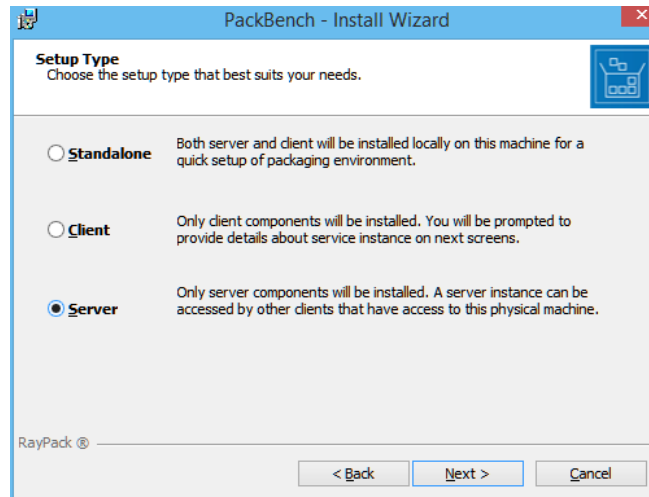
The **Setup Type** screen is displayed presenting the three options available for PackBench installations:
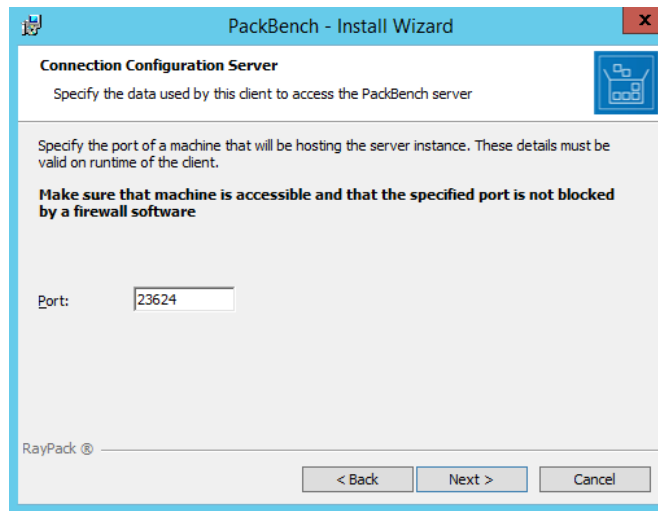
- **Standalone**
- **Client**
- **Server**

Press **Next >** to continue. The content of the upcoming step depends on the selected setup type.

Connection Configuration Server screen

The port of the server is specified on this page. Before continuing with the next step ensure that the port is accessible.

> ⚠️ **WARNING**
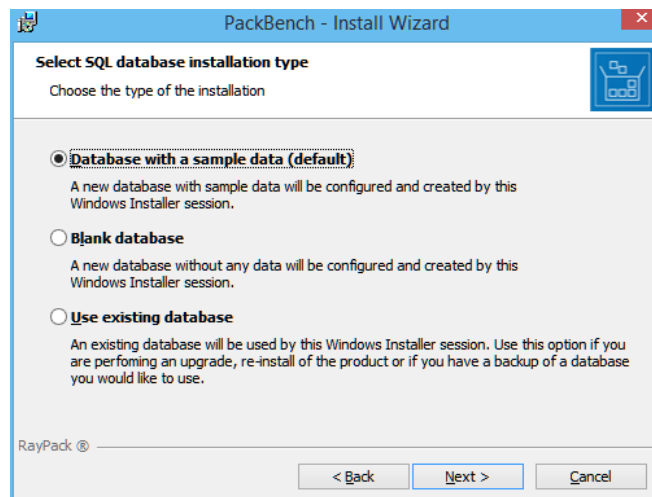> Ensure that the machine is accessible and that the given port is not blocked by a firewall software!

Click on the **Next >** button to proceed.

Select SQL database installation type screen

The type of the database configuration is chosen in this screen. There are three options available:

- **Database with a sample data (default)**: If this option is chosen, a new database will be

created. The database will already contain some sample data. As already indicated, this is the default option.

- **Blank database**: If this option is chosen, an empty database will be created.
- **Do not configure**: If this option is chosen, no database will be configured. Continue with the *Ready to Install Program* screen.

Select the desired option and click on the **Next >** button to proceed.

SQL Server Configuration Screen
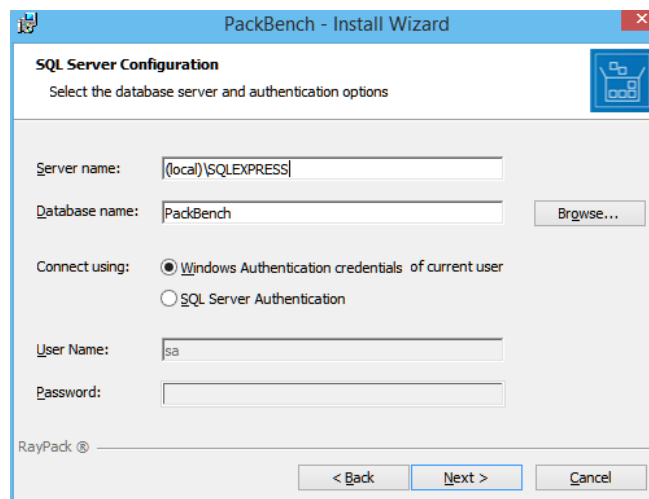
In the **SQL Server Configuration** screen the SQL server connection credentials will be set up.

- **Server name:**: The SQL server needs to be defined. Please specify the server together with the instance (if an instance is required). The server can be specified either by its name or by its IP address. The SQL server must exist and must have a user which can create a database and has read and write access to the newly created database.
- **Database name**: Define the name of the database which will be used by PackBench. When clicking on the **Browse...** button a window will open which shows databases which are already configured at the server.
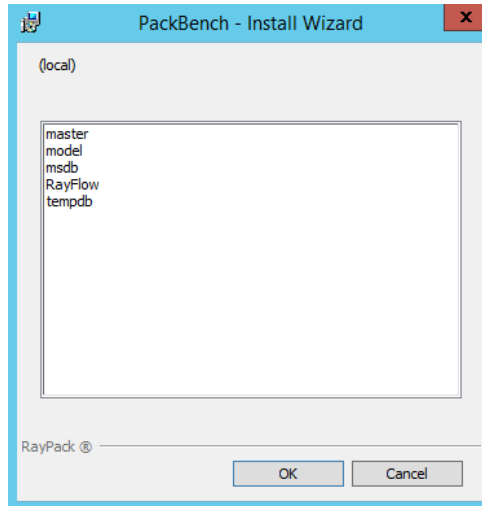
Select one of these databases and click on the **OK** button to use an already existing database.

- **Connect using**: The authentication method which is used for PackBench is defined here. There are two options available:
  - **Windows authentication credentials of current user**: If this is chosen, the Windows authentication of the current user will be used for login.
  - **SQL Server Authentication**: If this is chosen, enter an user name for an user of the SQL database into the **User Name** field and its corresponding password into the **Password** field.

Click **Next >** to proceed.
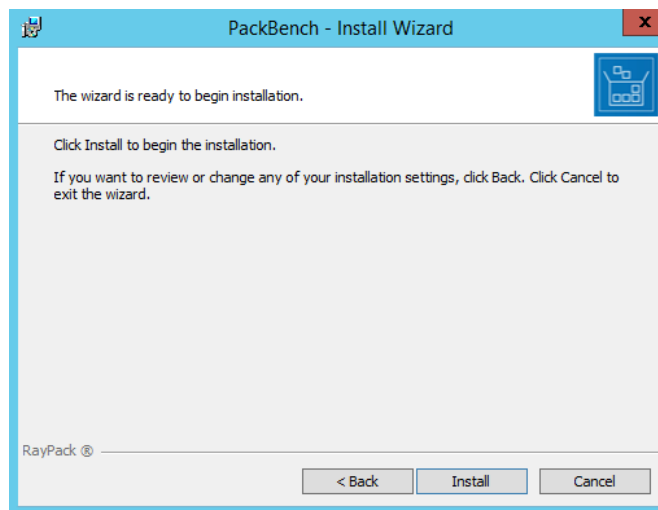
Ready to Install the Program screen

All required settings and properties are defined and PackBench is ready to be installed. Click **Install** to start the process.

A progress indication dialog is displayed as long as the installation steps are executed.
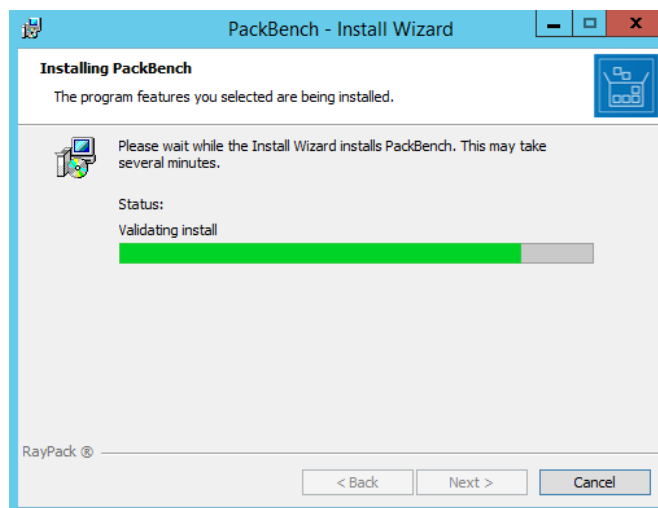
Whilst the installation is executed, Windows may present a **User Account Control** message like the one shown below:
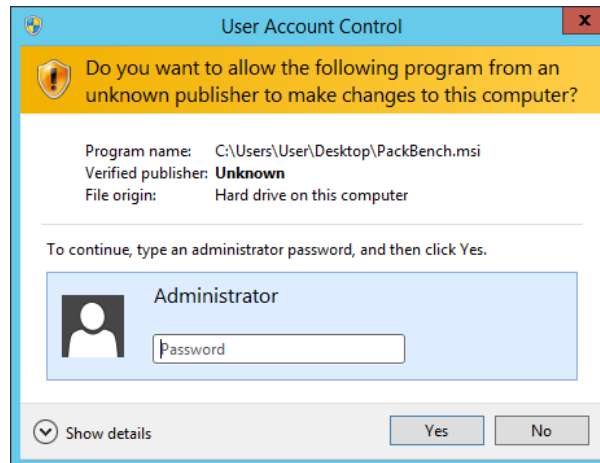
Enter the credentials of the administrative account and click **Yes** to perform the installation.
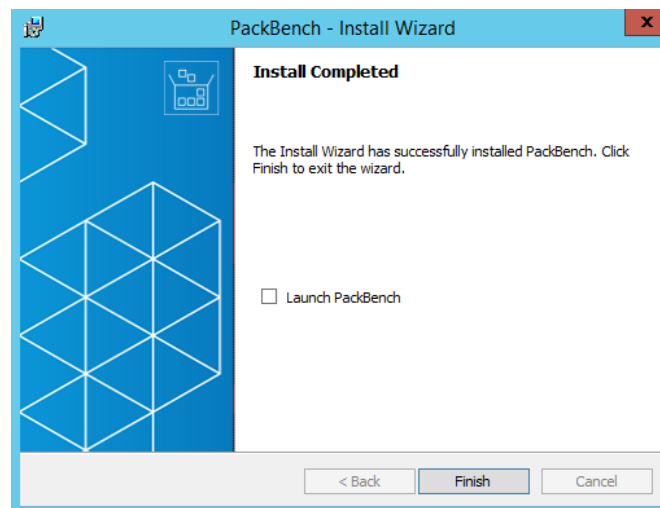
As soon as all required measures are done, the Install Completed dialog is presented. Activate the **Launch PackBench** checkbox to immediately launch PackBench.

Click **Finish** to exit the setup.

If the **Launch PackBench** option has been activated, the application is loaded immediately. During the software launch, another Windows **User Account Control** message may be displayed.

Please click **Yes** to proceed if this message occurs.

Installing a Client Component

Preparing the Installation

Before the application can be installed on a device, some preparations are needed:

1. Please make sure to have your order number or license file at hand. Either one will be provided by our support team, or your Raynet sales representative.
2. The machine has to meet the system requirements described within the chapter *Requirements*.
3. A Windows User with sufficient rights for installations has to be logged in.
4. Close all dispensable applications during the setup routine execution.
5. Ensure that the machine contains all necessary prerequisite software as mentioned in chapter *Prerequisite Software*.

Be aware:
If no other configuration has been made, PackBench is using port 23624 by default. Please ensure, that this port is not blocked by a firewall.

Installing PackBench

Launch the PackBench setup with a double-click on the MSI file and wait for the **Welcome** screen to be prepared.

Click **Next >** to proceed.

In order to be allowed to install PackBench, the **END USER LICENSE AGREEMENT** has to be accepted. To do so, select the upper radio button and click **Next >** to proceed.

Please choose the destination folder and the root directory for projects by either keeping the suggested default or clicking on the **Change...** button to select another target directory.

If a custom destination folder has to be defined, the dialog displayed above has to be used. Please use the icons to navigate to the desired installation directory or to create a new one where necessary. As soon as the correct target is defined click **OK** to return to the **Destination Folder** screen. It will be updated to display the custom destination recently selected.

On the **Destination Folder** screen click **Next >** to proceed.
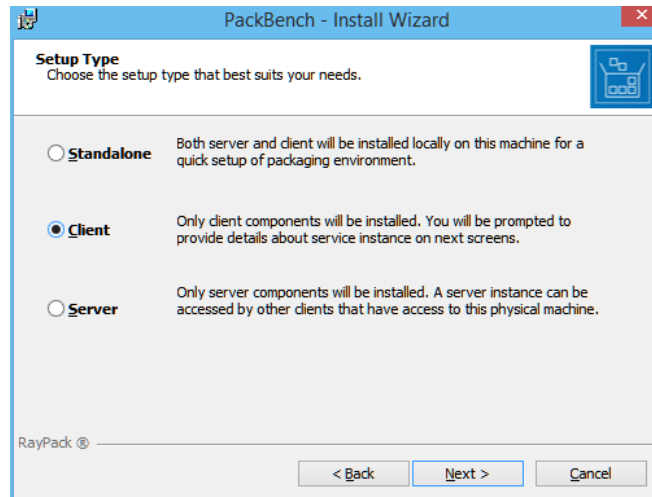
The **Setup Type** screen is displayed, presenting the three options available for PackBench installations:

- **Standalone**
- **Client**
- **Server**

Press **Next >** to continue.

Connection Configuration Client screen
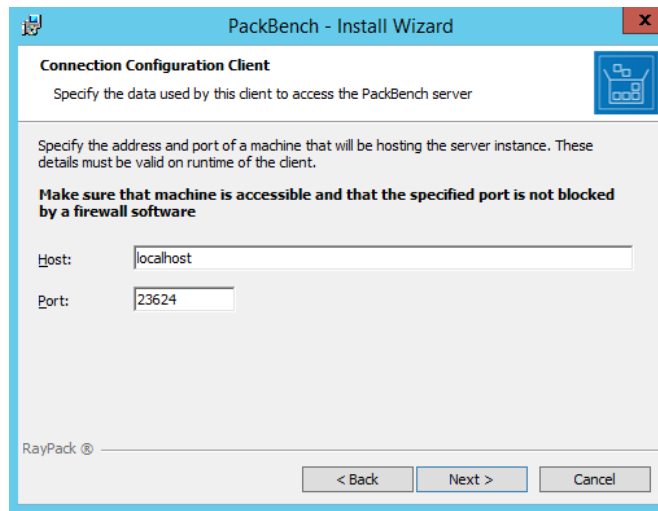
In the **Connection Configuration Client** screen the connection to the device which hosts the PackBench server is configured. In this screen there are two fields which are mandatory for the configuration of the connection:

Host: The SQL server needs to be defined here. Please specify the server together with an instance (if an instance is required). The server can be specified either by its name or by its IP address.

Port: The port for the connection has to be entered here. Please ensure, that the port is identically with the one that has been used during the set up of the PackBench server.

Click on **Next >** to proceed.

The License Type screen
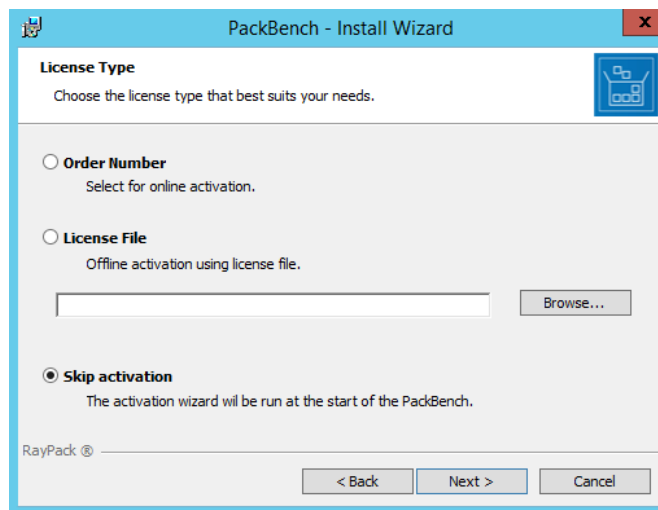
The **License Type** screen provides options to either activate the PackBench instance via order number and online activation service, by using an already prepared license file (`*.rsl`), or to skip activation for now. If the activation is skipped, it will be necessary to perform the activation at the first launch of PackBench..

To use an already existing license file, which most likely has been provided by the Raynet support team, the **Browse...** button has to be clicked. Use the controls of the system browser dialog to navigate to the `*.rsl` file, select it, and click on the **Open** button.

Click **Next >** to proceed.

If activation by order number has been selected during the previous step, the **Customer Information** screen is displayed:
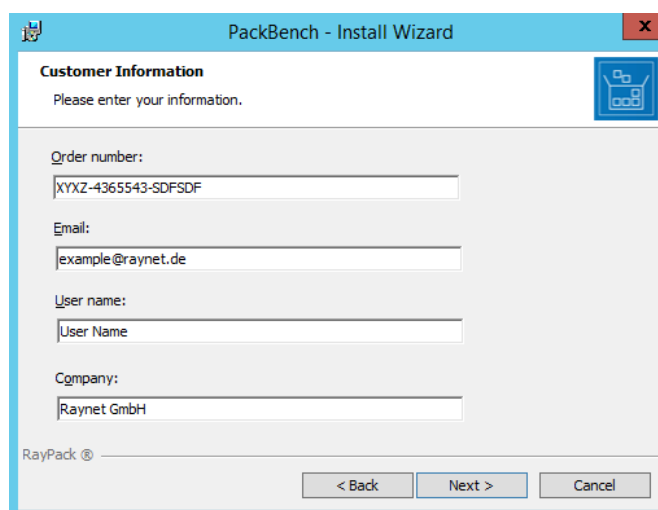
Please enter your individual RayPack Studio Installer Order number and provide the required user information, such as E-Mail, user name, and company name. The information will be used to verify the order number during the upcoming installation execution procedure.

Click **Next >** to proceed.

RayFlow screen
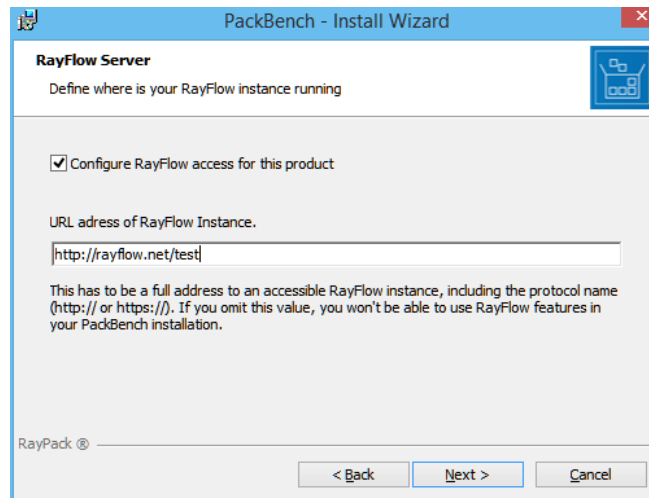
If RayPack Studio Installer is used together with RayFlow, tick the **Configure RayFlow access for this product** checkbox and enter the full RayFlow URL here.

> **Note:**
> If no RayFlow URL is entered, all RayFlow related functionalities will be unavailable.

Click **Next >** to proceed.
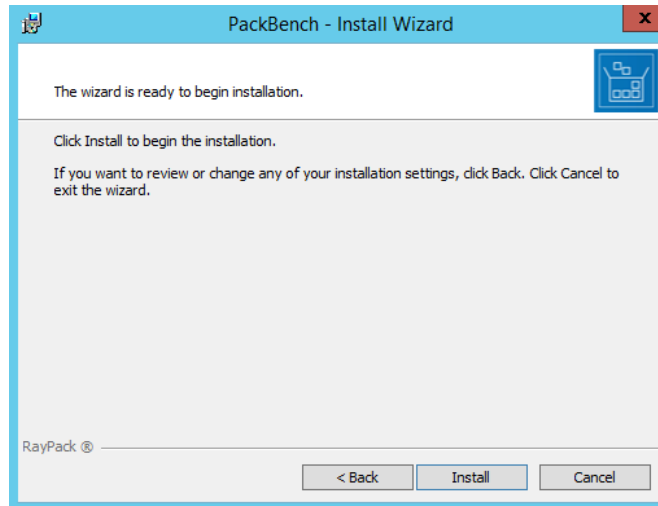
Ready to Install the Program screen

All required settings and properties are defined and PackBench is ready to be installed. Click **Install** to start the process.

A progress indication dialog is displayed as long as the installation steps are executed.
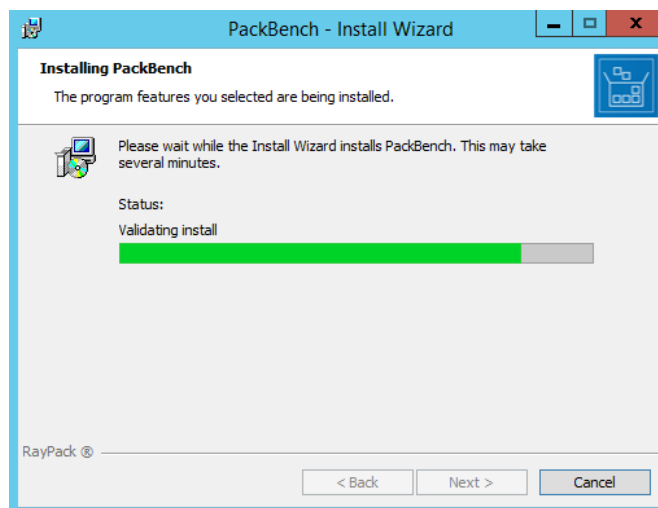
Whilst the installation is executed, Windows may present a **User Account Control** message like

the one shown below:

Click **Yes** to perform the installation.
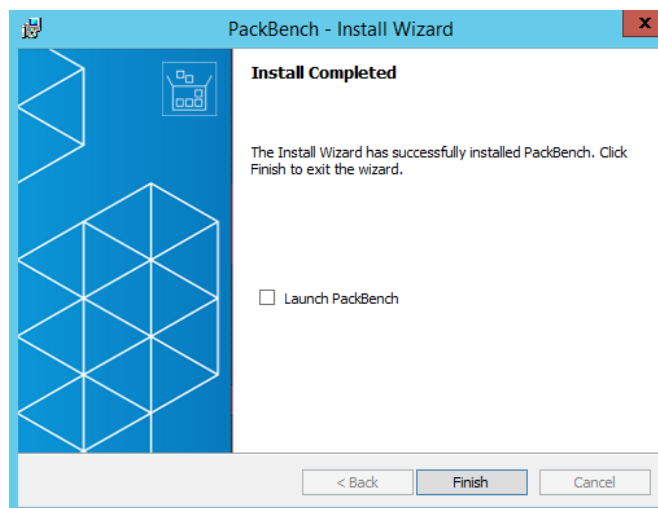
As soon as all required measures are done, the **Install Completed** dialog is presented. Activate the **Launch PackBench** checkbox to immediately launch PackBench.

Click **Finish** to exit the setup.

If the **Launch PackBench** option has been activated, the application is loaded immediately. During the software launch, another Windows **User Account Control** message may be displayed.

Please click **Yes** to proceed if this message occurs.

As soon as the home screen is displayed PackBench is ready for action.

Preparing a Standalone Installation of RayPack

The Remote PackRecorder can be used to capture snapshots and edit `.rcp` files generated from the capture delta analysis from a clean packaging machine without hardware lock and activation requirements.

1. To use the Remote PackRecorder the following steps are required:
2. Install the full RayPack framework on one device which is now considered to be the core packaging system.
3. Extract a RayPack image by copying the installation folder to a different location (make sure that all RayPack instances are closed before initiating the copy procedure).
4. Delete all `.rsl` files from the root folder of the newly created RayPack image.
5. Copy the `RayPackFreePackRecorder.rsl` from `<INSTALLATION_PATH>\RayPack \RemotePackRecorder\` to the root folder of the newly created RayPack image (make sure this is the only `.rsl` file within the root folder).
6. This RayPack image may now be run from any machine by simply calling the RayPack executable.

RCP or RPP project files have to be either transferred to or made available for access from the core packaging system.

For a more detailed description on how to use the Remote PackRecorder refer to the Knowledgebase article which can be found at: *https://raynetgmbh.zendesk.com/hc/en-us/ articles/206494355-RPK200000-How-to-use-the-Remote-PackRecorder*.

Installing RayFlow Server

To install a RayFlow Server a separate license for RayFlow Web and the installation resources for RayFlow Web are needed. The installation resources for RayFlow web consist of a separate `.msi` file which is not part of the RayPack Studio installer.

A RayFlow Server can be installed either on the same machine as the RayPack Studio or it can be set up on another machine. The RayFlow Server needs to be up and running before the RayPack Studio is installed in order to setup the connection to the RayFlow server during the installation of the RayPack Studio. For how to setup the connection to the RayFlow server during the installation of the RayPack Studio refer to the *Common Tab* chapter in this guide.

> **WARNING**
> During the installation of the RayPack Studio, the complete URL of the RayFlow server needs to be entered. This includes the protocol (for example: `http://`), port (:####), and path (for example: `/rayflow`)

For detailed information on the installation of a RayFlow server refer to the *RayFlow Server Installation Guide* which is part of the documentation of RayFlow Web.

Setting Up a Common Packaging Share

PackPoint is a feature, which is available for RayPack professional and enterprise edition users, allowing them to reuse a central repository of common resources (templates, merge modules, exclusions, predefined properties, etc.). Once established, PackPoint is an essential companion for the maintenance of high level teamwork and standardization measures in packaging factories.

In order to use the PackPoint organization structure, the storage location for the PackPoint has to be defined in the *RayPack Tab*. If a PackPoint is defined, the initial population with resources is executed when RayPack is launched for the first time. All core resources, which are appropriate for permanent maintenance beyond product upgrades and local instance endurance, are automatically put to the PackPoint location. The material preserved within the PackPoint location is the base for any synchronization with the local resources on the packaging machine.

> **Note:**
> PackPoint is not available for *Standalone Repackager* installations of RayPack. Please either use the custom or typical setup type to enable PackPoint initialization during the application installation.

Types of PackPoint Resources

Essentially, two types of PackPoint resources can be distinguished:

- **Resources for which a local copy is created**
  Examples of this type of resources are profiles, exclusions, and templates. In order to ensure that a user has permissions to change them, the global PackPoint profiles and templates are copied to the local machine and will be used instead. If there is no access to PackPoint defaults will be taken from `[INSTALLDIR]Resources\Default`. These resources are critical and required for RayPack to work.

- **Resources accessed directly from PackPoint**
  Most of the customizable resources (Custom Actions, predefined folders, system search, conditions, Merge Modules etc.) are accessed directly from PackPoint. If PackPoint becomes unavailable, certain features may not work (for example, the Merge Modules browser may show no predefined modules etc.). These resources are not critical and RayPack will run even if they are not accessible.

PackPoint Update Mechanism

Whenever RayPack is launched, the version value of the local resources and the PackPoint version are compared. If they differ (which may occur when the PackPoint has been updated during maintenance or product update phases), one of the following procedures is executed:

- **Strict mode (PackPoint overrides local settings)**
  Any change that has been executed on the PackPoint location will be taken over into the local settings. Any local changes will be lost. This is the default behavior.

During this process:

o The existing local RayPack configuration ("`%appdata%\RayPack\*.*`") is being updated from the PackPoint configuration templates (`[PPDir]\Default`).
o Local filters and profiles are overridden
o Package templates are replaced completely (from PackPoint to local).

- **Loose mode (Local settings are preserved)**
  The local resources and PackPoint resources are merged to generate a synchronized overall state.

  During this process:

  o The existing local RayPack configuration ("`%appdata%\RayPack\*.*`") is being updated from the PackPoint configuration templates (`[PPDir]\Default`).
  o Filters and profiles are merged (only not existing entries are added, exiting entries are remaining the same).
  o Local package templates are preserved

  This synchronization allows to take over local adjustments into the overall PackPoint, whilst at the same time being able to receive updated PackPoint resources into the settings for the local application instance. In order to reset the changes performed to local settings, users should remove them from the local machine and relaunch RayPack. The synchronization mechanism will automatically create a new local copy of the resources preserved within the PackPoint.

Be aware:

If the defined PackPoint location is unavailable due to broken files, missing user rights, or missing connectivity, RayPack Studio Installer is still operational. It will use the local settings. If both, local settings and PackPoint resources are unavailable, RayPack will operate in a failsave mode, using default resources for vital settings informations. Nonetheless, it is highly recommended to repair the PackPoint and the local settings, in order to avoid data loss and working result quality that is of less quality than possible with the settings defined for the individual packaging environment.

For more information on PackPoint refer to the *RayPack User Guide* and to the following KnowledgeBase article: *RPK200140: PackPoint and its Installation and Configuration*.

Extract an MSI

It is possible to extract the MSI files of the RayPack Studio components from the RayPack Studio installer to be able to perform an unattended deployment of those files.
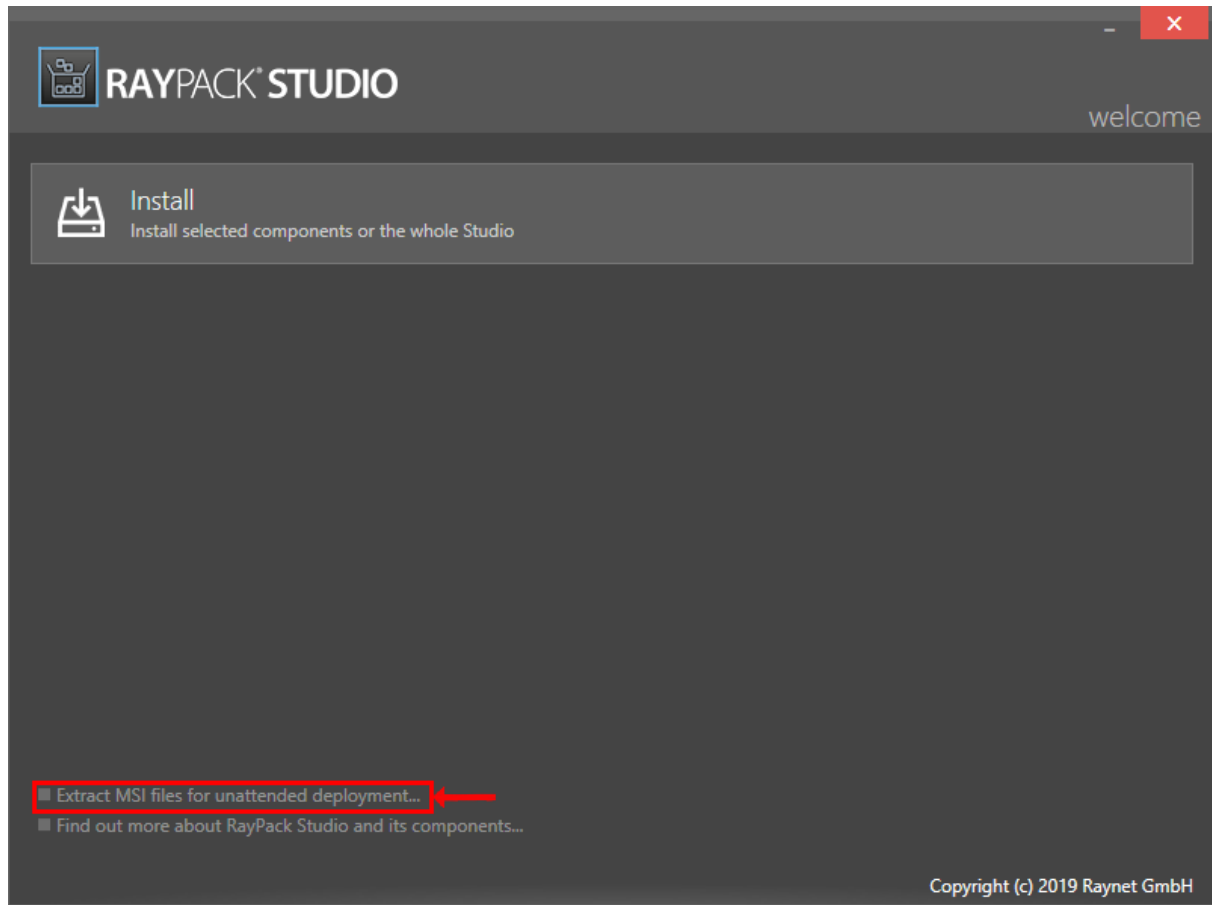
Extract MSI Files

To do this, click on the **Extract MSI files for unattended deployment...** link (highlighted in the screenshot above), which can be found on the **Welcome Page** of the RayPack Studio installer.
The **Select Folder** explorer window will open. Browse to the target folder and click on the **Select Folder** button. The RayPack Studio MSI files (`PackBench.msi`, `RayEval.msi`, `RayFlow.msi`, `RayPack.msi`, and `RayQCAd.msi`), which can be used for the unattended installation of all RayPack Studio applications, will be extract to the target folder.

Upgrade

The option **Upgrade** appears only if there is at least one product installed in an earlier version then the version attached to the RayPack Studio Installer.
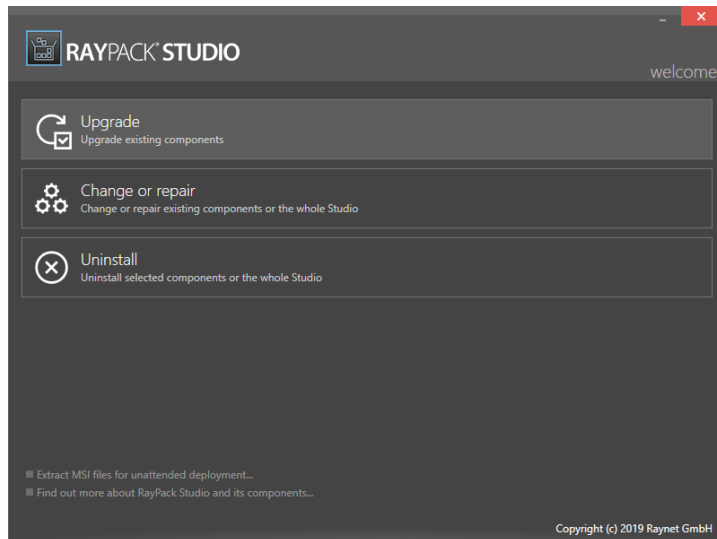
Welcome Page with Upgrade, Change or Repair, and
Uninstall Tile

After clicking on the **Upgrade** tile, the user is redirected to the **license** page. All the steps that are following are similar to the steps in the *Installation* chapter.

> **Note:**
> The Components page will display only those products which are already installed on the machine and which do not have the current version.
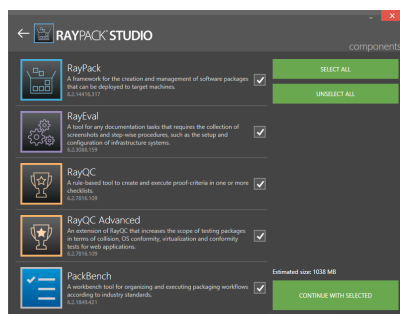
Example of Components Page
in the Upgrade Mode

Change or Repair

The **Change or repair** option is only visible if there is at least one product which is part of the RayPack Studio and which is installed on the machine.
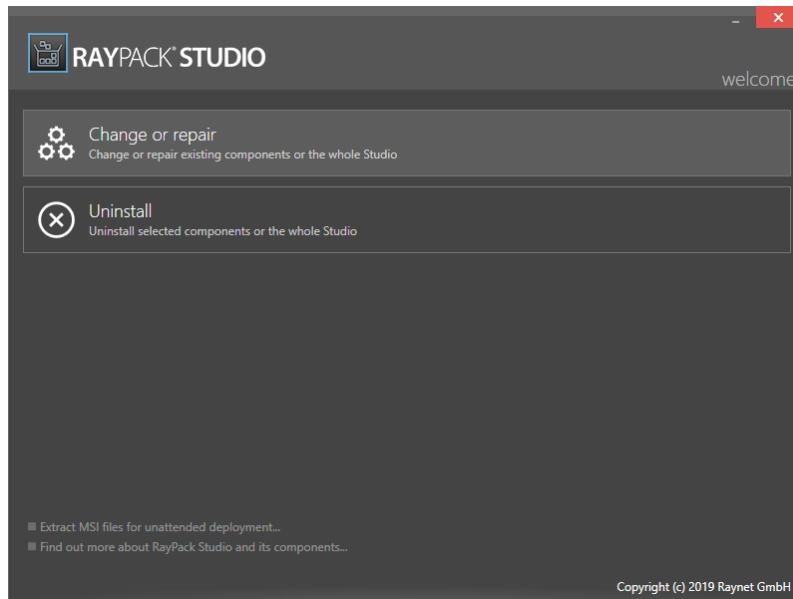
Welcome Page with Change or Repair and Uninstall Tile

After clicking on the **Change or repair** tile, all of the following steps are similar to those described in the *Installation* chapter.

> **Note:**
> In the components screen in the **Change or repair** mode, all of the applications available in the RayPack Studio Installer are listed and the products that are installed on the selected machine are selected by default. A checked checkbox means that the **Change or repair** action will be performed on this application, regardless of the products version.

Uninstallation

The **Uninstall** mode is only available if an application from the RayPack Studio family is already installed on the machine. The **Uninstall** configuration contains only the components screen. Select the application to uninstall. Products that are not installed are listed on this list, but cannot be selected.
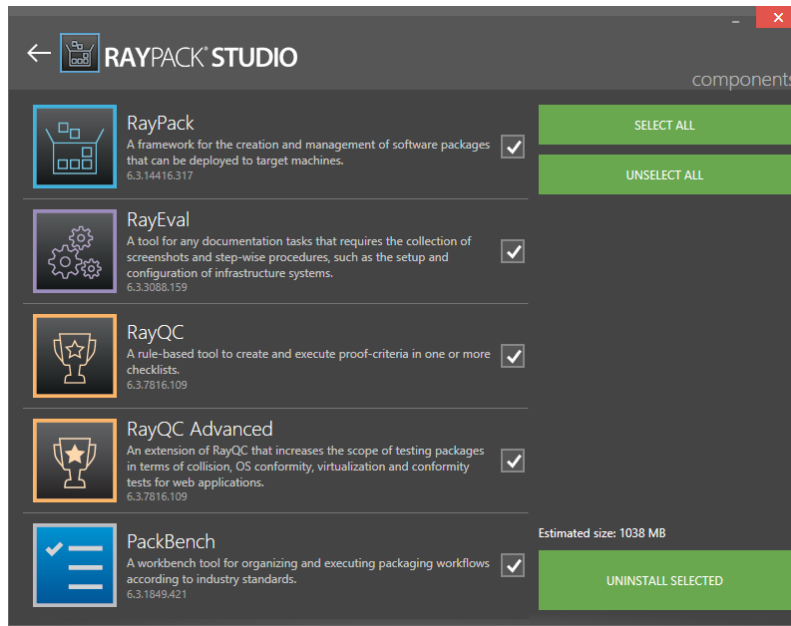
Components Page in Uninstall Mode

After clicking on the **Uninstall selected** button the user is redirected to the **progress** page and the uninstallation process begins. As soon as the uninstallation has been completed, the **finish** page containing a summary of the actions that have been performed is shown.

Command Line

The `RayPackStudioInstaller.exe` executable supports the command line interface. The following represents the list of parameters for the command line interface which are supported by the RayPack Studio Installer..

Switch	Description	Example
/h	Displays the help which is describing all available switches.	`RayPackStudioInstaller.exe /h`
/i	Installs a product on the machine.	`RayPackStudioInstaller.exe /i /p RayEval`
/x	Uninstalls a product from the machine	`RayPackStudioInstaller.exe /x /p RayEval`
/p	Is used to select a product for an installation/ uninstallation. Mandatory for /x and /i	`RayPackStudioInstaller.exe /i /p RayEval;RayQ(`
/q	Silent installation with default settings.	`RayPackStudioInstaller.exe /i /p RayEval /q`
/f	Path to the INI file with the setup configuration	`RayPackStudioInstaller.exe /i /p RayEval /f uiconfig.ini /q`

User Configuration

All settings that are entered on the details page are saved in an INI file which can be found under `%appdata%\Raynet\RayPackStudio\uiconfig.ini`. This file is used to restore the configuration on the next run of the RayPack Studio Installer. Additionally, this file can be used for unattended installations using the `/f` switch in the RayPack Studio Installer command line interface.

The `uiconfig.ini` file needs to begin with the `[uiconfig]` section. All parameters that can appear in this section are described in the following table:

Parameter	Type	Description
InstallationFolder	String	Installation folder, for example `C:\Program Files (x86)\RayPackStudio`.
WindowsAuthenticationRayBench	Boolean	When set to `True`, a Windows authentication will be used for the communication with the SQL server in PackBench.
SqlAuthenticationRayBench	Boolean	When set to `True`, a SQL authentication will be used for the communication with the SQL server in PackBench.
DoNotConfigurePackPoint	Boolean	When set to `True`, the configuration of PackPoint during the RayPack installation will be enabled.
ConfigurePackPoint	Boolean	When set to `True`, the configuration of PackPoint during the RayPack installation will be disabled.
PackBenchProjectFolder	String	The location where the PackBench projects are stored.
PackPointFolder	String	The PackPoint folder location, for example `C:\RayPack\PackPoint`.
SQLServerRayBench	String	The SQL server name and instance in PackBench, for example `.\SQLEXPRESS`.
UserNameRayBench	String	The SQL user name in PackBench.
PasswordRayBench	String	The SQL user password in PackBench. THIS PROPERTY IS ENCRYPTED!
DatabaseRayBench	String	The SQL database name in PackBench.
ExtractionFolder	String	The extraction folder in RayQC Advanced, for example `C:\RayQCAd`.
SQLServer	String	The SQL server name and instance in RayQC Advanced, for example `.\SQLEXPRESS`.
UserName	String	The SQL user name in RayQC Advanced.
Password	String	The SQL user password in RayQC Advanced. THIS

Parameter	Type	Description
		PROPERTY IS ENCRYPTED!
DatabaseRayQCAd	String	The SQL database name in RayQC Advanced.
WindowsAuthentication	Boolean	When set to `True`, a Windows authentication will be used for the the communication with the SQL server in RayQC Advanced.
SqlAuthentication	Boolean	When set to `True`, a SQL authentication will be used for the the communication with the SQL server in RayQC Advanced.
ConfigureRayFlowAccess	Boolean	When set to `True`, an URL address to the RayFlow server will be set in each application. This is a common setting for all RayPack Studio applications.
RayFlowUrl	String	The URL address of the RayFlow server. It needs to start with either http:// or https://.
RayBenchUpdateExistingDatabase	Boolean	**Option is set automatically. Not available for the user.**
RayQCAdRequiresSQL	Boolean	**Option is set automatically. Not available for the user.**
PackBenchSetupTypeClient	Boolean	**Option is set automatically. Not available for the user.**
PackBenchSetupTypeServer	Boolean	**Option is set automatically. Not available for the user.**
PackBenchSetupTypeStandalone	Boolean	**Option is set automatically. Not available for the user.**
RayBenchRequiresSQL	Boolean	**Option is set automatically. Not available for the user.**
RayBenchDatabaseWithSampleDate	Boolean	**Option is set automatically. Not available for the user.**
RayBenchBlankDatabase	Boolean	**Option is set automatically. Not available for the user.**
RayBenchUseExistingDatabase	Boolean	**Option is set automatically. Not available for the user.**

Below there is an example of an `uiconfig.ini` file.

```
[uiconfig]
PackBenchSetupTypeClient = False
PackBenchSetupTypeServer = False
PackBenchSetupTypeStandalone = True
RayQCAdRequiresSQL = False
RayBenchRequiresSQL = False
InstallationFolder = C:\Program Files (x86\RayPackStudio
```

```
ExtractionFolder = C:\RayQCAd
SQLServer = .\SQLEXPRESS
DatabaseRayQCAd = RayQCAdDb
WindowsAuthentication = True
SQLAuthentication = False
WindowsAuthenticationRayBench = True
SqlAuthentication = False
WindowsAuthenticationRayBench = True
SqlAuthenticationRayBench = False
DoNotConfigurePackPoint = True
ConfigurePackPoint = False
PackBenchProjectFolder = C:\RayPack\PackBench
ConfigureRayFlowAccess = False
RayFlowUrl = http://example.com/rayflow
RayBenchDatabaseWithSampleData = True
RayBenchBlankDatabase = False
RayBenchUseExistingDatabase = False
RayBenchUpdateExistingDatabase = True
SQLServerRayBench = .\SQLEXPRESS
DatabaseRayBench = PackBenchDb
```

Troubleshooting

Log files are stored under `%appdata%\Raynet\RayPackStudio\`. Each run creates at least one new log file. There might be more files created per run depending on the installation process and the installed applications.

Help and Support

Request RayPack Studio Installer Support

Our Raynet support team gladly assists you on any question or issue you encounter regarding RayPack Studio Installer. Feel free to sign in and open incidents via our Raynet support panel. Please open incidents by using the Raynet Support Panel.

Join the RaySuite Community

The RaySuite community resides within our Knowledge Base: *https://raynet.de/Support/*. Once you have signed up for access to the Raynet support panel, you automatically have access to the *KnowledgeBase*, too. You will surely come to a point where you would love to suggest a new feature for the future development of RayPack Studio Installer. Maybe you need to find some tips & tricks to hit your target right. the RaySuite community is your place for discussing such topics, for sharing and expanding your own experience.

Contact Your Raynet Sales Representative

Our sales team is the right contact for any license or edition question you might encounter. Would you like to benefit from a professional training for a product which is part of the RayPack Studio family? Ask for dates and locations to find the right training to meet your needs. You are highly welcome to step in contact via *sales@raynet.de*.